

What is Claimed is:

1. A method of eliminating stale information from a computer graphics buffer, comprising:
reading a clear count value associated with a pixel location in the buffer;
comparing the clear count value with a current clear count; and
if the clear count value does not equal the current clear count, writing a predetermined value to the pixel location in the buffer.
2. The method of claim 1, wherein:
the clear count value is read from the pixel location in the buffer.
3. The method of claim 1, wherein:
the predetermined value is a color value.
4. The method of claim 1, wherein:
the predetermined value is a z value.
5. The method of claim 1, wherein:
the predetermined value and the current clear count are stored in storage structures of a fast clear system.
6. The method of claim 1, wherein:
the steps are performed for each of the pixels defining a region of interest in the buffer.

7. The method of claim 6, wherein:
the color value is the same for all of the pixels defining the region of interest.
8. The method of claim 6, wherein:
the steps are performed using a block transfer operation wherein a source region and
a destination region both correspond to the region of interest.
9. The method of claim 8, wherein:
all of the pixels in the region of interest are read and written during the block transfer
operation; and
for a given pixel, if the clear count value equals the current clear count, a stored value
read from the pixel location is written back to the pixel location.
10. The method of claim 1, further comprising:
reading a stored value from the pixel location; and
if the clear count value equals the current clear count, writing the stored value back
to the pixel location.
11. The method of claim 1, wherein:
the writing step comprises replacing the clear count value with the current clear count.

TOP SECRET

12. A method of eliminating stale information from a computer graphics buffer, comprising:
performing a block transfer operation on pixel locations of the buffer;
wherein a source region and a destination region for the block transfer operation are the same; and
wherein, for each pixel location, the block transfer operation comprises:
reading a clear count value associated with the pixel location;
comparing the clear count value with a current clear count; and
if the clear count value does not equal the current clear count, writing a predetermined value to the pixel location.
13. The method of claim 12, further comprising:
if the clear count value equals the current clear count, writing a stored value read from the pixel location back to the pixel location.
14. The method of claim 12, wherein:
the clear count value is read from the pixel location in the buffer.
15. The method of claim 12, wherein:
the predetermined value and the current clear count are stored in storage structures of a fast clear system.
16. The method of claim 12, wherein:
the writing step comprises replacing the clear count value with the current clear count.

17. A method of eliminating stale information from a buffer of a computer graphics system, comprising:
using a fast clear mode, rendering in a region of interest within the buffer;
determining, responsive to a state of the computer graphics system, that the fast clear mode should be discontinued; and
for each pixel location in the region of interest:
reading a clear count value associated with the pixel location;
comparing the clear count value with a current clear count; and
if the clear count value does not equal the current clear count, writing a predetermined value to the pixel location.
18. The method of claim 17, wherein the region of interest is a window.
19. The method of claim 17, further comprising:
determining, responsive to a state of the computer graphics system, that the fast clear mode may be resumed; and
resuming operation in the fast clear mode.
20. The method of claim 17, wherein:
the clear count value is read from the pixel location in the buffer.
21. The method of claim 17, wherein:
the predetermined value represents a background color.
22. The method of claim 17, wherein:
the predetermined value and the current clear count are stored in storage structures of a fast clear system.

23. The method of claim 17, wherein:
the reading and writing steps are performed using a block transfer operation wherein
a source region and a destination region of the block transfer operation both
correspond to the region of interest.
24. The method of claim 23, wherein:
all of the pixels in the region of interest are read and written during the block transfer
operation; and
for a given pixel, if the clear count value equals the current clear count, a stored value
read from the pixel location is written back to the pixel location.
25. The method of claim 17, further comprising:
reading a stored value from the pixel location; and
if the clear count value equals the current clear count, writing the stored value back
to the pixel location.
26. The method of claim 17, wherein:
the writing step comprises replacing the clear count value with the current clear count.

10012354.003

27. Computer program code embodied in a machine-readable storage or transmission medium which, when executed on a computer, causes the computer to perform a method of eliminating stale information from a computer graphics buffer, comprising:

reading a clear count value associated with a pixel location in the buffer;

comparing the clear count value with a current clear count; and

if the clear count value does not equal the current clear count, writing a predetermined value to the pixel location in the buffer.

28. The computer program code of claim 27, wherein:

the steps are performed for each of the pixels defining a region of interest in the buffer.

29. The computer program code of claim 28, wherein:

the predetermined value is the same for all of the pixels defining the region of interest.

30. The computer program code of claim 28, wherein:

the steps are performed using a block transfer operation wherein a source region and a destination region both correspond to the region of interest.

31. The computer program code of claim 30, wherein:

all of the pixels in the region of interest are read and written during the block transfer operation; and

for a given pixel, if the clear count value equals the current clear count, a stored value read from the pixel location is written back to the pixel location.

10012354-1

32. The computer program code of claim 27, wherein:
the writing step comprises replacing the clear count value with the current clear count.

TOP SECRET

33. Computer program code embodied in a machine-readable storage or transmission medium which, when executed on a computer, causes the computer to perform a method of eliminating stale information from a computer graphics buffer, comprising:

performing a block transfer operation on pixel locations of the buffer;

wherein a source region and a destination region for the block transfer operation are the same; and

wherein, for each pixel location, the block transfer operation comprises:

reading a clear count value associated with the pixel location;

comparing the clear count value with a current clear count; and

if the clear count value does not equal the current clear count, writing a predetermined value to the pixel location.

34. The computer program code of claim 33, further comprising:

if the clear count value equals the current clear count, writing a stored value read from the pixel location back to the pixel location.

35. The computer program code of claim 33, wherein:

the clear count value is read from the pixel location in the buffer.

36. The computer program code of claim 33, wherein:

the predetermined value and the current clear count are stored in storage structures of a fast clear system.

37. The computer program code of claim 33, wherein:

the writing step comprises replacing the clear count value with the current clear count.

38. Computer program code embodied in a machine-readable storage or transmission medium which, when executed on a computer, causes the computer to perform a method of eliminating stale information from a buffer of a computer graphics system, comprising:

using a fast clear mode, rendering an image in a region of interest within the buffer; determining, responsive to a state of the computer graphics system, that the fast clear mode should be discontinued; and

for each pixel location in the region of interest:

reading a clear count value associated with the pixel location;

comparing the clear count value with a current clear count; and

if the clear count value does not equal the current clear count, writing a predetermined value to the pixel location.

39. The computer program code of claim 38, wherein the region of interest is a window.

40. The computer program code of claim 38, further comprising:

determining, responsive to a state of the computer graphics system, that the fast clear mode may be resumed; and

resuming operation in the fast clear mode.

41. The computer program code of claim 38, wherein:

the reading and writing steps are performed using a block transfer operation wherein a source region and a destination region of the block transfer operation both correspond to the region of interest.

10012354.003

42. The computer program code of claim 41, wherein:
all of the pixels in the region of interest are read and written during the block transfer operation; and
for a given pixel, if the clear count value equals the current clear count, a stored value read from the pixel location is written back to the pixel location.

43. The computer program code of claim 38, wherein:
the writing step comprises replacing the clear count value with the current clear count.

10012354-1